Risk Mitigation Strategies

High-risk factors/ Potential problems	Risk management activities
The business benefit of the project is poorly defined • Project is in jeopardy of being placed on hold or cancelled if higher value work is identified • Harder to get resources required • Hard to evaluate the value of the project to the organization • Hard to define scope changes in terms of cost/benefit • Hard to know if business value was achieved when project is complete	• Try to get business customer to quantify the overall business value of the project • Look at the major requirements and try to quantify the value of the various deliverables • Document the intangible benefit that the project will achieve • Review prior similar projects to see how the benefits were quantified • Don't start the project while the business value is undefined
The scope of the project is poorly defined • Hard to provide sound estimates • May spend time and cost on areas out of scope • Hard to gather concise requirement • Difficult to write project definition and workplan • Hard to invoke scope-change procedures • Project deliverables are poorly defined	• Focus on firming up scope in the planning process • Define various components of scope, such as what organizations are affected, what deliverables are expected, what type of information is required • Clearly define what is out of scope for the project • Begin to define business requirements at a high level and then work upward to define scope • Ask project sponsor to make decision on conflicting scope statements • Document all scope assumptions when providing estimates of work, cost, or duration • Use pictures or diagrams to communicate scope and options • Establish firm scope-change procedures up front • Ensure the project definition and business requirements are formally approved and signed off on • Distribute scope statements to all stakeholders for confirmation • Do not begin project until scope is clear
The project sponsor is not identified or not enthusiastic • Project may not get the resources it needs • Project may not have the long-term commitment needed • Political battles may delay the project • Issues and change requests may not be resolved in a timely manner	• Establish a strong steering committee to help guide the project • Establish a process for resolving disputes between organizations • Try to identify a different sponsor • Ask the sponsor to delegate full authority to another person who can act on their behalf • Don't start the project

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Customer commitment level is passive/hard to engage • May point out low confidence in the business value • Harder to get customer time and resources needed • Harder to gather business requirements • Customers may undermine or work against the project	• Create an aggressive communication plan to keep customers engaged and communicate the business benefit • Create user group to surface concerns and build enthusiasm • Ask for customer participation in planning and requirements gathering • Ask for help from the sponsor to generate excitement • Look for opportunities to sell project in fun settings and contexts • Be proactive in gaining commitments for customer resources when you need them • Don't start the project
Project management experience is light • May take longer to define the project and build workplan • May make more mistakes in judgment, causing rework and project delays • More difficulty organizing and managing a complex project • May not be familiar with sound project management practices • May not know when to call for help	• Provide up-front project management training • Designate a more senior person to coach and mentor the project manager • Break the project into smaller pieces that are easier to manage • Put a strong quality-assurance process in place to ensure the project is on the right track • Make sure the major deliverables are formally approved • Utilize strong team leaders and team members to bring additional experience to bear
Project team is located in dispersed locations • Harder to communicate effectively • Less team interaction and cohesion • Harder to build personal relationship with the entire team • Some members may feel isolated and not a part of the team • Technology problems may result in productivity decrease	• Try to get the team into one location, at least for the length of the project • Create an aggressive communication plan to ensure the team communicates effectively • Hold regular meetings where the entire team meets face-to-face • Schedule team-building activities where the entire team meets face-to-face • Have backup methods to communicate if the primary technology fails • Maintain frequent contact by phone with remote team members • Create a central repository to hold the project documentation that all team members can access

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Project management processes are unfamiliar or will not be used • Team may have a difficult time understanding how to raise issues, scope changes, and risks • Project may get out of control as the internal processes become more complex and harder to manage • Communication will tend to be poorer • Project deliverables might be completed in different formats • Issues may not be addressed in a timely manner, scope changes may be adopted without thought of impact to the project, risks may be ignored, and quality may be compromised • Chance that the project may be in trouble before it is recognized	• Provide training to the project manager and project team on sound project management processes and procedures • Assign an experienced project management coach or mentor to the project • Break the project into smaller pieces that can be managed with less-rigorous project management • Define and gain approval for a set of project management procedures before the project starts, including issues management, change management, risk management, and quality management • Create a solid communication plan to ensure everyone knows what's going on and can provide feedback • Solicit input on issues, risk, scope change, and quality concerns on an ongoing basis
The business requirements of the project are vague or complex • Difficult to document the requirement properly • Difficult to use tools to document the requirements • Difficult to understand what the expectations of the project are • Chance that the resulting solution will not meet business need • May be a sign of a lack of focus from the customer	• Use joint application design (JAD) session to gather requirements from all stakeholders together • Utilize prototyping and iterative development techniques to assist users in discovering the requirements of the new system • Get access to the sponsor and to senior management to provide overall guidance • Provide training to the customers on how to think about and express business requirements • Ensure that the final business requirements are approved in writing and that a change-management procedure is enforced after that
The system availability requirements are 24/7 • Downtime problems may result in productivity decreases or loss of revenue • Redundancy may be needed, which increases system complexities • Newer advanced technology may be required • More procedures and processes are needed to maintain the system environment	• Allocate more time to analysis, design, testing, and overall quality assurance activities • Focus extra time and energy on technology architecture • Focus more time and energy on database design • Use industry best practices for all technology and process components • Provide appropriate training to the team so they understand the 24/7 implications on the project • Determine exactly what portions of the system have a 24/7 requirement • Look for internal or outside experts to validate overall technical design and architecture • Develop solid disaster recovery procedures • Develop a strong partnership with the hardware and software vendors

High-risk factors/ Potential problems	Risk management activities
The technical requirements are new and complex • May be difficult to understand the requirements and the implications of design decisions • May be integration issues between old and new technology • May be difficulty testing the complex technology • The more complex the technology, the greater the risk that problems will occur • Problems with incompatible technologies may not be uncovered until integration or system testing	• Utilize system and technical design documents to clearly lay out how the technology fits together • Define the overall system technical architecture and have it approved by knowledgeable people in your company • Send the architecture proposal to outside consultants for further feedback and validation • Create a pilot test or prototype to utilize the new technology in a small way at first • Try to substitute more proven and familiar technology in the architecture • Utilize multiple products from the same vendor to ease integration complexities • Use products that utilize open standards and architectures to reduce the risk of integration problems
The project data requirements are complex • Hard to understand the implications of how data relates • Hard to know if and when all data elements have been captured • More likely that some data elements will be discovered missing until system construction • Solution may have more limited value if all required data is not present • Solution will take longer to analyze, design, construct, and test	• Utilize an automated tool to capture data elements and the relationships • Gain agreement on logical design before databases are built • Gather customer approval for the data models once they are completed • Utilize trained data architects to help collect the data and design what the data structures should look like
Many locations to deploy to • May be different requirements from the different locations • May be different procedures, processes, or technology • May be technology problems with tying all the pieces together at each location • Technology infrastructure may be different at different locations	• Gather requirements from all locations you will deploy to • Make sure the sponsor agrees with any customization of process or system based on different locations • Implement at a simple site first to gain experience and modify implementation process before proceeding with all other sites • Make sure an overall architecture is in place that will flexibly accommodate all locations and any communication that needs to take place • Make sure the technical infrastructure is understood at each location

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Many system interfaces • Increased complexity of testing • More reliance on other projects or systems • More chance for incompatibility • Harder to track down problems, errors, and bugs	• Reduce the need for interfaces when possible • Reduce the amount of information being passed when possible • Use as flexible a technology for the interface as possible (i.e., XML) • Break the project into smaller subprojects with fewer interfaces to manage • Work early to set expectations regarding the need for knowledgeable resources from the other systems • Test the interfaces as early in the project as possible • Add extra analysis to ensure the needs of the interfaces are well understood • Include the people that support the interfaces in the official communication and status reporting
High number of organizations are affected • Coordination is more complex • Approvals can be more cumbersome and lengthy • More difficult to reach consensus • More people and groups to involve in planning and requirements • Harder to know the major stakeholders of the various organizations • Implementation is harder and more complex	• Establish a formal approval process • Create a steering committee to represent the entire stakeholder community • Keep the sponsor engaged and ready to intervene in the various organizations • Include representative from each organization in requirements, quality assurance, and testing • Include opportunities for people from the various organizations to meet and interact • Work with the team on strict adherence to overall project objectives and priorities • Use consensus-building techniques when at all possible
High number of estimated effort hours • Implication of a high number of effort hours is that there are many people involved and more complexity • Harder to communicate effectively with the team • Bottlenecks can occur when decisions are needed quickly • More chance of people problems • Increased chance of turnover • More people to train	• Use a project management tool to control resource utilization • Have team members utilize weekly status reports to report on progress against their assigned workplan activities • Utilize team leaders to manage subteams • Organize team-building activities to build cohesion • Schedule status meetings to keep people informed of project status • Utilize structured internal procedures for scope, issue, quality, and risk management • Break the project into smaller, shorter subprojects • Reduce available project work time per person, per day to recognize additional people and team-related activities

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Long estimated project duration • Harder to manage the schedule • Easier for the team and the customer to drift or lose focus • More chance that project will lose organizational commitment • More chance business requirements will change • More chance of change in software or hardware versions • Difficult to instill sense of urgency at the beginning of project • More chance of team and customer turnover	• Break the project into smaller, shorter subprojects • Identify clear milestones to check that the project is on schedule • Be diligent using formal change management procedures • Rotate team members into different roles to keep up the interest level • Strive to get ahead of schedule as early as possible. • Instill a sense of urgency from the start of the project • Organize team-building activities to build cohesion and reduce friction • Ensure all major deliverables are formally approved, so that change management can be invoked afterward • Make technical design and architecture decisions as flexible as possible to account for potential changes
Subject matter is not well known by the project team • Longer learning curve for project team members • The project may slip behind in the early portions of the project • No sense for whether business requirements make sense • Possibility that critical features or functions will be missed • Need to initially rely on customer for all subject-matter expertise	• Take as much training as practical, as early on as possible • Bring the key customers onto the project team • Spend extra time understanding and documenting the requirements • Set up approval process for requirements that require multiple subject-matter experts • Use joint application design (JAD) session to gather requirements from all stakeholders together • Utilize more frequent walkthroughs and include the users • Build extra time into the estimates for application analysis and design activities
High dependency on outside projects or teams • Delays in the other projects/teams could delay your project • Changes to deliverable from other projects/teams could force your project to make changes • More complexity involved in requirements, design, testing, etc. • More chance of incompatible standards, processes, technology • More people and groups to communicate effectively with • Harder to build consensus, longer time for decisions that affect multiple groups	• Be very specific in defining how other projects/teams affect your project • Be very specific on the timing for when deliverables are needed from other projects/teams • Establish central contacts as the focal points of communication between the projects/teams • Include the dependent projects/teams in your status reports and meetings • Continually communicate expectations from the other projects/teams

High-risk factors/ Potential problems	Risk management activities
Business processes and policies require substantial change • Policy changes could delay the project • People will be confused with new processes, which will affect their ability to utilize the solution • Possibility that new processes will not be fully integrated at first • Possible void if new processes don't fully cover all contingencies • System functions may not be used if not supported by correct procedures • Substantial change in processes may result in destructive behavior	• Document all current policies and processes and ensure that they are correct • Communicate precisely how the new processes differ from the old ones • Communicate potential changes as far in advance as possible • Ensure the customers are defining the process and policy changes • Have one person responsible for all process and policy changes • Create an aggressive communication plan to keep customers engaged and informed • Use the new processes in a pilot test or prototype first to ensure they are workable and correct • Include the successful implementation of new policies and processes as part of the performance criteria for managers • Be open to customer input on process changes—for better ideas and to allow them to feel they have impact
Changes to organization structure are substantial • Organizational uncertainty can cause fear in the organization • People may not focus on project if they have organizational concerns • People may fear loss of jobs in a new organization • People may not use the system if they are unhappy with the organizational change • Uncertainty may cause decisions to be delayed • Organizational change may result in decisions made for political purposes	• Document the concerns that come out of a new organization and look for ways to mitigate the concerns • Communicate early and often about the potential for change and the business reasons for it • Involve representatives from all stakeholder areas in the organizational design and options • Get human resources involved to deal with potential people issues
The project technology is new and unfamiliar (or new releases) • Learning curve may result in lower initial productivity • May be integration problems between old and new technology • Resistance to technology changes may cause the project to be delayed • May be difficulty testing the new technology • Technology may not be installed or configured correctly, which will lead to project delays • New tools can lead to longer delivery times • New technology may require substantial conversion efforts • System performance may be poor while expertise is gained in optimizing and configuring the technology	• Provide as much training on the new technology as practical, as early as possible • Train everyone who needs to install, use, or support the new technology • Make arrangements to rely on vendor technical specialists, when needed • Use outside consultants who are familiar with the technology • Make sure there is an adequate test environment where the technology can be utilized without affecting production • Ensure that solid analysis is completed regarding the new technology functions, features, and capabilities • Create procedures and standards for how the new technology should be utilized • Create a pilot test or prototype to utilize the new technology in a small way at first

High-risk factors/ Potential problems	Risk management activities
The quality of current data is poor and difficult to convert • More work to convert the old data to the new system • Scrubbed data may still cause problems in the new system • Data conversion problems can cause significant project delays	• Make sure that all the old data elements are correctly mapped to the new system • Test the conversion process out rigorously before proceeding with final conversion • Determine if the cost and trouble associated with the converted data is worth the value. Ask whether the new system can start with new data only. • Keep the old system around for some period to access the old data • Spend the effort to manually clean up the old data as much as possible before conversion
Package implementation requires heavy customization • Customization brings added complexity to the project • Making modifications may result in something else breaking • Customization can lead to poor performance • Customization can complicate migrating to newer releases • Heavy customization may mean that the wrong package was selected • Package will probably take longer to implement • Customization will require more reliance on the vendor	• Consider other packages • Consider custom development • Cut back on the business requirements so that customizations are not required • Get a firm estimate of the cost and duration of the modifications from the vendor and build into your overall workplan • Manage the vendor relationship to ensure all needed work is completed on schedule • Make sure the sponsor has approved the customizations being proposed • Thoroughly test the modified package for functionality and performance • Maintain a vendor log to track issues and milestones
Package implementation is a new product or release • Greater chance of problems surfacing • More reliance on the vendor to ensure problems are corrected quickly • Installation, testing, and deployment will take longer • Hard to know up front whether the package meets all the business requirements	• Schedule training on the package as early in the project as possible • Add an internal resource, or a consultant, with prior product experience onto the project • Schedule a pilot test or a prototype to gain familiarity with the package before full implementation • Establish agreements with the vendor stipulating support level and problem resolution times • See if the project can be delayed until other companies have utilized the product • Seek out other companies that have used the product for their feedback and key learnings
Package implementation is from a new vendor • Possibility that vendor may not survive and leave you with no support • Upgrades may be in jeopardy if there are not enough sales in the marketplace • No prior relationships from which to build a quick partnership • Legal and financial concerns may delay contracts and the project	• Make sure that all agreements with the vendor be in writing • Insist that source code be placed in escrow in case the company does not survive • Ask the vendor to be a part of the project team • Maintain a vendor log to track problems with the package • Make sure the vendor is financially sound • Establish agreements with the vendor stipulating support level and problem resolution times